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| 10/749,291      | 12/30/2003  | Erdal Karamuk        | 36348               | 9807             |

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| EXAMINER |
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STOUFFER, KELLY M

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| ART UNIT | PAPER NUMBER |
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1762

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 02/02/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/749,291

Applicant(s)

KARAMUK ET AL.

Examiner

Kelly Stouffer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, filed 18 December 2006, with respect to the objection to the specification and claims 4, 7, and 8 have been fully considered and are persuasive. The objection of the specification and claims 4, 7, and 8 has been withdrawn.
2. Applicant's arguments with respect to claims 1, 3, and 5-6 have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3, 5, 7, 14, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication 2004/0179709 A1 to Niederdraenk et al.

Regarding claim 1, Nierderdraenk et al. discloses a process for the liquid impervious sealing (paragraph 0013 and reference number 7) of one or more of small crevices, chinks, capillaries, and openings (reference number 5 in the figure and where reference numbers 3 and 1 – the housing of the hearing aid device – meet) in walls of housings (reference number 1) which occur due to an assembly of at least two structural components (reference number 5 in the figure and where reference numbers 3 and 1 – the housing of the hearing aid device) where a hydrophobic coating is provided on the housing wall and least in the area of the one or more crevices, chinks, openings, and capillaries (reference number 7). Also see paragraphs 0019-0026 for a description of the figure. Nierderdraenk et al. does not explicitly disclose that gas permeability has to be obtained with the structural components. However, one of

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ordinary skill in the art at the time of the invention would realize that it is obvious for hearing aid devices with microphone membranes to maintain a certain degree of gas permeability, and any coating applied thereto would possess this property.

Regarding claim 2, the hydrophobic coating (reference number 7) of Nierderdraenk et al. is provided in a variety of areas (see figure) in paragraphs 0019-0020.

Regarding claim 3, the coating is a nanocoating, which would be recognized as containing nanoparticles by one of ordinary skill in the art (paragraph 0027).

Regarding claim 5, the coating contains fluorine containing polycondensates (paragraph 0017).

Regarding claims 7 and 14, the coating seals crevices, chinks, or capillary openings in housing walls of hearing aid devices (see Figure as noted above and paragraph 0020-0021, 0002 for hearing aid applicability).

Regarding claim 18, Nierderdraenk et al. discloses a process for the liquid impervious sealing of small gaps between components of a hearing aid device (see paragraphs 0019-0026 and the Figure) comprising assembling two components of the hearing aid device together (reference numbers 4 and 3) to form a surface having small gaps (5) wherein surface is gas permeable (as discussed above), coating the surface in the area of the gaps with a hydrophobic coating (7) to prevent liquid from entering the gaps (paragraphs 0019-0026), and the surface remains gas permeable with the coating applied (as discussed above).

Regarding claim 19, the coating contains fluorine containing polycondensates (paragraph 0017).

4. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niederdraenk et al. in view of US Patent 5674624 to Miyazaki et al.

Nierderdraenk et al. is described above and includes an organic hydrophobic coating that includes fluorine and possibly some metals. Nierderdraenk et al. does not describe a coating process for these materials to create the nanocoating. Miyazaki et al. teaches the suitability of using a sol-gel process to create such coating, in order to receive a highly dust protective film (abstract). Nierderdraenk et al., in addition, also desires the film to be dust protective (paragraph 0020).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nierderdraenk et al. to include creating the nanofilm by a sol-gel process as taught by Miyazaki et al. in order to create a film that is highly dust protective.

5. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nierderdraenk et al. in view of US Patent 6649222 to D'Agostino et al.

Regarding claim 6, Nierderdraenk et al. is described above and includes an organic hydrophobic coating that includes fluorine and possibly some metals. Nierderdraenk et al. does not describe a coating process for these materials to create the nanocoating, but desired the nanocoating to be hydrophobic (abstract). D'Agostino

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et al. teaches coating surfaces with fluorocarbon low temperature plasma deposition (column 1 lines 12-16, 49-52 and column 2 lines 35-36). These films are deposited in this manner to deposit a continuous fluorocarbon thin film that is tightly bound to the substrate with super hydrophobic surface characteristics (column 2 lines 7-17). One of ordinary skill in the art would recognize that by depositing a tightly bound and continuous film, one is depositing an improved hydrophobic coating than that desired by Nierderdraenk et al.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nierderdraenk et al. to include the procedure for depositing the organic and fluorine containing film with a low temperature plasma as taught by D'Agostino et al. in order to form a tightly bound and continuous film that has super hydrophobic characteristics and will have less risk of leaks.

Regarding claim 16, the coating of Nierderdraenk et al. seals crevices, chinks, or capillary openings in housing walls of hearing aid devices (see Figure as noted above and paragraph 0020-0021, 0002 for hearing aid applicability).

6. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nierderdraenk et al. in view of US Patent number 6751327 to Urso et al.

Nierderdraenk et al. is discussed above and includes the provisions of claims 8 and 15 except for specifically coating hearing aid battery compartments. Urso et al. teaches that hearing aid battery shells need hydrophobic coatings to prevent moisture ingress or egress and build up of earwax on the shell (columns 7-8 lines 56-8).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Niederdraenk et al. to include coating hearing aid battery compartments with hydrophobic coating as taught by Urso et al. in order to prevent moisture ingress or egress and build up of earwax on the battery compartment.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Niederdraenk et al. in view of D'Agostino et al. as applied above, and further in view of Urso et al.

Niederdraenk et al. and D'Agostino et al. are discussed above and include the provisions of claim 17 except for specifically coating hearing aid battery compartments. Urso et al. teaches that hearing aid battery shells need hydrophobic coatings to prevent moisture ingress or egress and build up of earwax on the shell (columns 7-8 lines 56-8).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Niederdraenk et al. and of D'Agostino et al. to include coating hearing aid battery compartments with hydrophobic coating as taught by Urso et al. in order to prevent moisture ingress or egress and build up of earwax on the battery compartment.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP



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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly Stouffer whose telephone number is (571) 272-2668. The examiner can normally be reached on Monday - Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kelly Stouffer  
Examiner  
Art Unit 1762

kms

  
TIMOTHY MEEKS  
SUPERVISORY PATENT EXAMINER